



A Study of Hypertension in Chronic Alcoholics

Authors

Dr Ghodke B.¹, Dr Kulkarni V.², Dr Rai A.³

¹Associate Professor, ^{2,3}Resident

Department of General Medicine, MGM Medical College, MGM Institute of Health Sciences
[Deemed University, U/S.3 of UGC Act 1956] Navi Mumbai

Abstract

A chronic alcoholic is a person who is severely addicted to and dependent on alcohol. They will often have no job, no contact with family or friends, are not in control of their drinking, and may suffer from cognitive impairment because of their alcoholism. The health problem for which alcohol is responsible is only part of total social damage which includes family disorganization, crime and loss of productivity.⁴ Hypertension is an established risk factor in chronic alcoholics, but little is known about the relationship between blood pressure (BP), severity of their alcohol abuse, and severity of alcohol withdrawal syndrome (AWS). Considering all such pictures this study is mainly meant to study the clinical picture, treatment and outcomes of hypertension in chronic alcoholics.⁸

Aim: *To study Hypertension in Chronic Alcoholics in the IPD & OPD patients in our hospital. To see if there is any specific alcohol induced hypertensive cases with no influence from other risk factors except smoking and dyslipidemia. To ascertain specific line of treatment for hypertension in chronic alcoholics.*

Method: *Patients admitted in our hospital with diagnosed Hypertension will be enrolled.*

Patients will be clinically evaluated based on: Demographic variations, Symptoms at the time of presentation, Clinical findings at the time of presentation and entire hospital stay, Lab investigations, Complications associated if any, Treatment given and, Response to the treatment. Patients will also be divided into various subgroups based on different classes of oral Antihypertensive drugs that they are going to receive.

Result: *100 alcoholic populations were examined on OPD and IPD basis and it was found that about 47% of total alcoholic have developed systemic hypertension. The age wise prevalence of systemic hypertension in alcoholic population is more in age group 51 to 60 years. All hypertensive patients were divided in 5 groups and started with 5 different groups of oral antihypertensive drugs namely CCB, ARB, ACE inhibitors, beta adrenergic blocker and Diuretics. Centrally acting antihypertensive drugs were not prescribed. Patients were followed up over 6 weeks duration, out of 5 groups of antihypertensive drugs, Beta adrenergic blockers, ACE inhibitors and ARB showed good results in controlling blood pressure since first week itself and required less modification in regimen.*

Keywords: *Chronic alcoholic, prevalence of hypertension, oral antihypertensive drugs, smoking and dyslipidemia.*

Introduction

Cardiovascular diseases (CVDs) are the world's largest killers, claiming 17.1 million lives a year.¹

Dyslipidemia is a major cause of cardiovascular disease.^{2,3} According to current concepts alcoholism is considered a disease and alcohol a

“disease agent”. The health problem for which alcohol is responsible is only part of total social damage which includes family disorganization, crime and loss of productivity.⁴Chronic alcohol abuse primarily affects almost every organ system resulting in serious illness. An increased prevalence of hypertension in groups with high alcohol consumption has been recognized for a number of years. More recently, several studies have suggested an independent association between alcohol consumption and blood pressure levels in samples from general populations. Hypertension is diagnosed when the systolic blood pressure is above 140, and the diastolic above 90. Hypertension is a silent disease. Hypertension is an established risk factor in chronic alcoholics, but little is known about the relationship between blood pressure (BP), severity of their alcohol abuse, and severity of alcohol withdrawal syndrome (AWS).

Aims and Objectives

1. To study Hypertension in Chronic Alcoholics in the IPD & OPD patients of our hospital.
2. To see if there is any specific alcohol induced hypertensive cases with no influence from other risk factors except smoking and dyslipidemia.
3. To ascertain specific line of treatment for hypertension in chronic alcoholics.

Methodology

Materials and Methods

The study was a prospective observational study conducted at our hospital.

100 patients fulfilling the inclusion criteria were enrolled in the study.

The study was conducted in November 2014 to October 2016 for a period of 2 years.

Inclusion Criteria

- 1) Patients who are diagnosed to have hypertension with history of chronic alcohol consumption.

- 2) Patients above and equal to 18 years.
- 3) Patients with no other co-morbid conditions other than hypertension.
- 4) Risk factors include smoking and dyslipidemia.

Exclusion Criteria

- 1) Patients with co morbid conditions like DM, CKD, and CAD etc.
- 2) Patients with habits of social drinking.
- 3) Patients less than 18 years of age.

Methods

Patients admitted in our hospital with diagnosed Hypertension will be enrolled.

Patients will be clinically evaluated based on:

- 1) Demographic variations
- 2) Symptoms at the time of presentation
- 3) Clinical findings at the time of presentation and entire hospital stay
- 4) Lab investigations
- 5) Complications associated if any
- 6) Treatment given
- 7) Response to the treatment
- 8) Patients will also be divided into various subgroups based on different classes of oral Antihypertensive drugs that they are going to receive.

Analysis and Result

Study conducted in 100 alcoholic population shows following results:

- ❖ 100 alcoholic populations were examined on OPD and IPD basis and it was found that about 47% of total alcoholic have developed systemic hypertension.
- ❖ The age wise prevalence of systemic hypertension in alcoholic population is more in age group 51 to 60 years.
- ❖ The effect of duration of consumption over prevalence of systemic hypertension is more after 30 years of alcohol consumption.
- ❖ All hypertensive patients were divided in 5 groups and started with 5 different groups

of oral antihypertensive drugs namely CCB, ARB, ACE inhibitors, beta adrenergic blocker and Diuretics. Centrally acting antihypertensive drugs were not prescribed.

- ❖ Patients were followed up over 6 weeks duration, first week follow up doesn't showed much improvement in systolic and diastolic blood pressure whereas by second and third week of follow up there is much improvement in systolic and diastolic blood pressure.
- ❖ Some group of patients required modification in drug regimen in form of dose adjustment OR addition of other

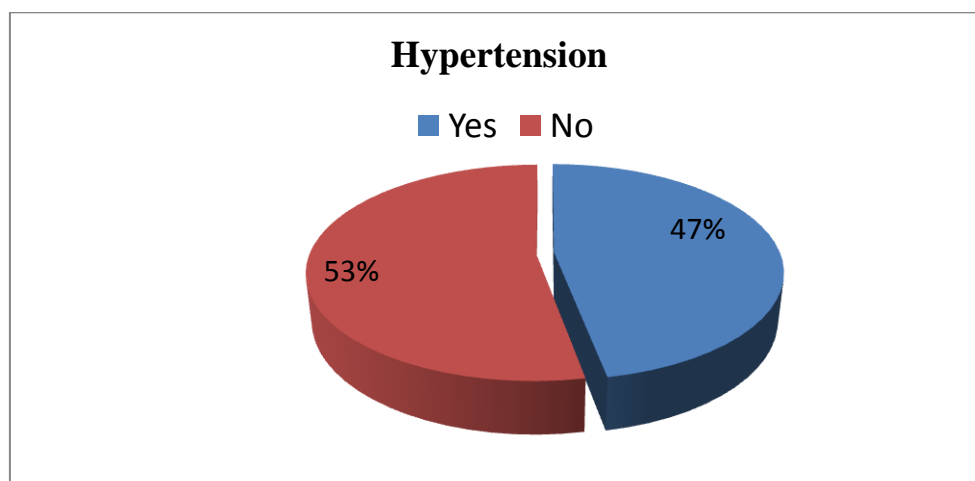
group of oral antihypertensive drugs to achieve improvement in blood pressure.

- ❖ Out of 47 patients 8 didn't came for regular follow up.
- ❖ Out of 5 groups of antihypertensive drugs, Beta adrenergic blockers, CCB and ARB showed good results in controlling blood pressure since first week itself and required less modification in regimen.
- ❖ When duration of consumption of alcohol is compared with age of population there is more prevalence of systemic hypertension in 30 years and below age group with average drinking for 10 years.

Table showing Prevalence of hypertension in alcoholic population:

Parameters		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Hypertensive	47	47.0	47.0	47.0
	Non-Hypertensive	53	53.0	53.0	100.0
	Total	100	100.0	100.0	

Findings from the table show that out of 100 alcoholic populations taken for research work only 47% have developed Systemic Hypertension.



The above figure shows that majority of sample were non hypertensive (53%) and 47% of the sample were hypertensive.

Table showing Age wise prevalence of Hypertension in alcoholic population:

BP	Years	N	Mean	Std. Deviation	Df	Mean Square	F	Sig.
Systolic BP	Up to 30 years	12	117.33	8.835	4	3955.2	8.73	0
	31-40 years	25	135.2	16.391				
	41-50 years	32	145.19	24.005				
	51-60 years	21	159.33	19.721				
	61 + years	10	151	33.483				
	Total	100	142.9	24.383				
Diastolic BP	Up to 30 years	12	72.5	6.216	4	1425.02	10.916	0
	31-40 years	25	78.64	10.61				
	41-50 years	32	84.38	14.128				
	51-60 years	21	95.52	6.809				
	61 + years	10	92	15.492				
	Total	100	84.62	13.522				

The above table shows age wise prevalence of hypertension in alcoholic population with more incidences in between age group 51 to 60 years.

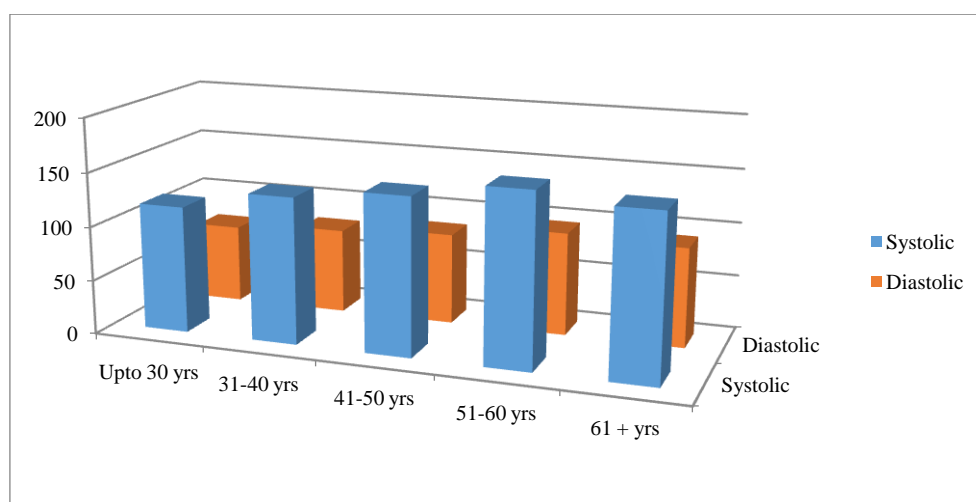


Figure showing Age wise prevalence of Hypertension in alcoholic population

The above figure shows that the incidences of hypertension in the age group of 51-60 years were much prevalent.

Table showing Blood pressure at the time of presentation and medications started:

Drugs		N	Mean	Std. Deviation	df	Mean Square	F	Sig.
Systolic BP	CCB	11	162.00	26.608	4	60.410	.249	.909
	B-blocker	9	162.67	7.483				
	Diuretics	8	166.00	10.254				
	ARB	11	166.18	11.152				
	ACE Inhibitor	8	168.00	9.856				
	Total	47	164.81	15.057				
Diastolic BP	CCB	11	94.55	6.876	4	40.767	.835	.510
	B-blocker	9	95.56	5.270				
	Diuretics	8	96.00	5.014				
	ARB	11	99.09	9.439				
	ACE Inhibitor	8	98.75	6.409				
	Total	47	96.77	6.935				

Table- shows mean systolic and diastolic blood pressure of hypertensive population at the time of presentation and the group of medications started to them i.e. CCB [calcium channel blockers], Beta adrenergic blockers, diuretics, Angiotensin receptor blockers and angiotensin converting enzyme inhibitors.

Here centrally acting anti hypertensives drugs are not considered.

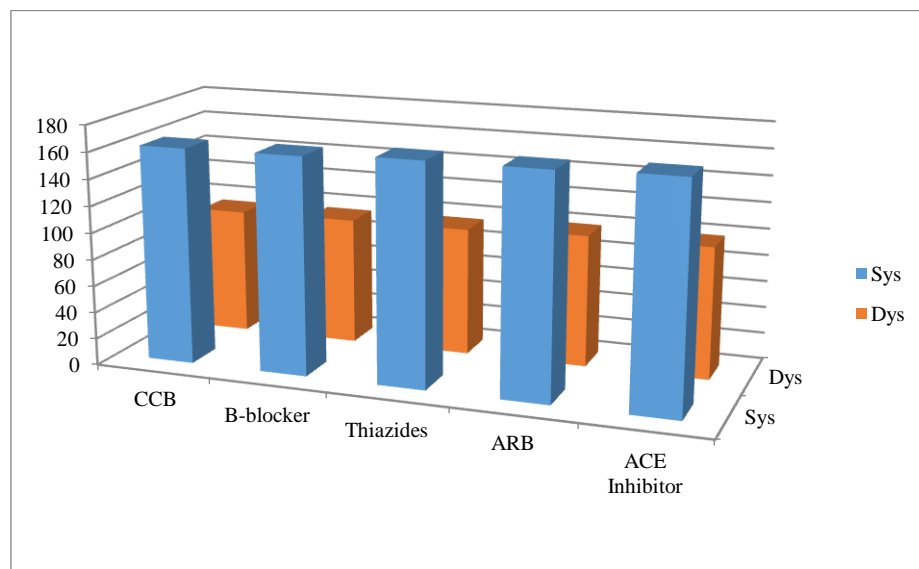


Figure showing Blood pressure at the time of presentation and medications started.

The above figure shows mean systolic and diastolic blood pressure of hypertensive population at the time of presentation and the group of medications started to them.

Discussion

Alcohol usage is a more frequent contributor to hypertension than is generally appreciated. It appears to be transitory in most patients, but is not benign. Because of its transitory nature, alcohol-associated hypertension may go unrecognized, or may be dismissed as inconsequential. However the mechanism through which alcohol raises blood pressure remains elusive. Our study helped to establish the association between chronic alcoholics and hypertension. From this study we were able to determine the prevalence of hypertension in specific age group with specific duration of alcohol consumption and also the effectiveness of certain antihypertensive agents which helped to lower the blood pressure.

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